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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/712,302	11/14/2003	William Todorov	13560-001	8860
1059	7590	05/04/2005	EXAMINER	
BERESKIN AND PARR 40 KING STREET WEST BOX 401 TORONTO, ON M5H 3Y2 CANADA			POPE, DARYL C	
			ART UNIT	PAPER NUMBER
			2632	

DATE MAILED: 05/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/712,302	TODOROV, WILLIAM	
	Examiner	Art Unit	
	DARYL C POPE	2632	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13-21 is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. ____.  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>2/18/2004</u> .   | 6) <input type="checkbox"/> Other: ____.                                    |

## DETAILED ACTION

### **ART REJECTION:**

#### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. **Claims 1,3,5, and 6 are rejected under 35 U.S.C. 102(e) as being anticipated by Hoch(6,492,963).**

-- In considering **claim 1**, the claimed subject matter that is met by Hoch includes:

- 1) the rotatable object is met by the rotating bicycle wheel(110);
- 2) the display for displaying at least one display pattern is met by the one or more linear array(101);
- 3) the self-contained rotational speed sensor for sensing rotational speed and being entirely mounted on the rotatable object is met by the sensor(106) including coils, in conjunction with the magnet(107) which form a Hall-effect sensor that allows determination of the angular velocity of the wheel(see: column 3, lines 8-15);
- 4) the microprocessor being connected to the display device and the speed sensor and for controlling the display array based on the rotational speed of the object is met by the control circuit(200) of the array(101), which includes a

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microprocessor(see: column 2, lines 61-63), and thereby synchronizes images and patterns displayed by the array based on the speed of the wheel(see: column 3, lines 7-21).

-- **Claim 3** recites subject matter met as discussed in claim 1 above, as well as:

1) the power source is met by the batteries of the control circuit(see: column 2, lines 61-63).

-- **Claim 5** recites subject matter that is met as discussed in claim 1 above, as well as:

1) the memory for storing at least one display pattern is met by the memory of the microprocessor(see: column 3, lines 64-67).

-- In considering **claim 6**, the receiver for receiving the at least one display pattern is met by the inherent receiving and processing circuitry means(not shown) of the microprocessor(202) of the master and slave display devices, which receive and controls the at least one display pattern from the memory(210) as determined by the pushbutton switches of the master display device(see: column 3, lines 64 et seq; column 4, lines 1-55).

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. **Claims 8-10 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Johnson(6,030,106).**

-- In considering **claim 8**, the claimed subject matter that is met by Johnson includes:

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1) the rotatable object is met by the wheel assembly(10) including rim(30) and tire(40);

2) the display device for displaying at least one display pattern is met by the lamps(80);

3) the wireless receiver for receiving display timing information from a signal source spaced from the object is met by the wireless signal receiver(50) which receives signals from the remote control means(100) that determine blinking patterns for the lamps(see: column 3, lines 26-47).

-- **Claim 9** recites subject matter met as discussed in claim 8 above, as well as:

1) the power source is met by the portable power source(70).

-- **Claim 10** recites subject matter that is met as discussed in claim 9 above, as well as:

1) the power source being operable to generate power from movement of the rotatable object is met by the since power is provided to the system based on the electrical switch being in the actuated to the on position when the vehicular wheel is rotated(see: column 3, lines 20-26).

-- **Claim 12** recites subject matter that is met as discussed in claim 8 above, as well as:

1) the receiver being operable to receive the display pattern from a signal source off the rotatable object such that the pattern is received when the object is moving is met by the receiver(50) receiving the display pattern from the remote control means(100, column 3, lines 26-47).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claims 2 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoch.**

-- In considering **claim 2**, it would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute one of an infrared LED sensor, ultrasonic sensor, tire deformation sensor, and G-force sensor in place of the Hall-effect sensor(106) of Hoch, since one of ordinary skill would have recognized that any of the above stated sensors would have been an art related equivalent to the sensor(106) of Hoch for the purpose of determining the rotational speed of the wheel, and therefore each particular sensor would have provided advantages that would have been readily recognizable by one of ordinary skill.

As well, all other claimed subject matter is met as discussed in claim 1 above.

-- In considering **claim 4**, the examiner takes Official Notice, that in the power generation art, use of power sources that generate power upon movement of a rotatable object is well known in the art, and therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute a movement induced power source in place of the batteries of Hoch, since this would have alleviated the necessity of constant replacement of the batteries in the system.

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As well, all other claimed subject matter is met as discussed in claim 3 above.

**7. Claim 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoch as applied to claim 6 above, and further in view of Johnson.**

-- Claim 7 recites subject matter that is met by Hoch as discussed in claim 1 above, except for:

- 1) the wireless receiver for receiving the at least one display pattern;
- 2) the signal source spaced from the rotatable object so as to receive the pattern while the rotatable object is moving.

Use of wireless receivers and spaced signal sources for receiving and displaying a pattern on a rotatable object is well known in the art. In related art, Johnson discloses a light display for a vehicular wheel which includes a wireless remote control device(100) which sends signals to a remote control receiver(50) while the wheel is moving, so as to display patterns on a vehicular wheel(see: column 3, lines 26-47).

Since the use of remote control device and receiver for displaying patterns is well known as seen by Johnson, it would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the wireless hand held control device(100) in place of the pushbutton switches(108) of Hoch, and as well, to incorporate the receiver(50) of Johnson into the circuitry(200) and in communication with the memory(210) and microprocessor(202) of Hoch, since this would have tremendously facilitate and enhanced the pattern display capabilities of Hoch by alleviating the necessity of stopping the movement of the wheel(110) of Hoch in order to change the desired display of the display devices.

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**8. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson as applied to claim 9 above, and further in view of Hoch.**

-- **Claim 11** recites subject matter that is met by Johnson as discussed in claim 9 above, except for:

1) the microprocessor for controlling the display device based on display timing information, that information being speed information of the rotatable object such that the display timing is calculated from the speed information.

Use of microprocessors for controlling display devices mounted on rotatable objects is well known in the art. In related art, Hoch discloses an electronic display apparatus mounted on a rotatable wheel, wherein the display apparatus is controlled by a microprocessor such that speed information of the wheel is utilized to calculate a display timing for purpose of displaying light patterns on the wheel(see: column 3, lines 8-21; column 4, lines 21-38).

Since Johnson suggests implementation of any desired control circuitry into the current flow control means(52, column 3, lines 27-47), it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the microprocessor(202) of Hoch into the control means(52) of Johnson, since this would have provided an efficient and as well space conservative device for controlling the operation and display of the lamps as desired by an operator of the system of Johnson.

***Allowable Subject Matter***

9. Claims 13-21 are allowed.



10. The following is a statement of reasons for the indication of allowable subject matter:

Claims 13-21 are deemed to be allowable over the prior art, as the prior art does not teach or suggest a method of displaying a pattern during the rotation of a rotatable object, wherein a rotational speed and display timing required to display at least one display pattern using persistence of vision of a view are determined, and wherein one of the display timing and rotational speed are transmitted to a wireless receiver so as to control the display apparatus.

### ***Conclusion***

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to DARYL C. POPE whose telephone number is (571) 272-2959. The examiner can normally be reached on M-TH 8:00-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, DANIEL WU can be reached on (571) 272-2964. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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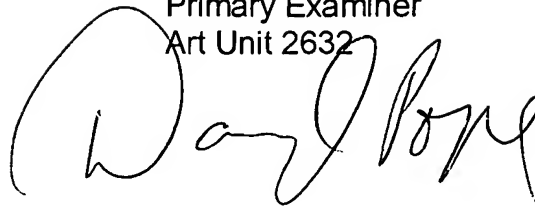
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Daryl C. Pope

DARYL C POPE  
Primary Examiner  
Art Unit 2632

May 1, 2005

A handwritten signature in black ink, appearing to read "Daryl C. Pope". The signature is written in a cursive, flowing style with a large initial "D".